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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,942	03/21/2002	Bong Jin Chung	PAS205PCTUS	4648

7590 06/04/2004

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EXAMINER

BERKO, RETFORD O

ART UNIT	PAPER NUMBER
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1615

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,942

Applicant(s)

CHUNG ET AL.

Examiner

Retford Berko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/17/02
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5 are rejected under 35 U.S.C. under 35 U.S.C. 103(a) as being unpatentable over the combination of Tadayuki et al (US 5, 668, 086), Yamashita et al (US 4, 764, 206) and White et al (US 3, 931, 137).
2. The claims are directed toward a dispersible granule containing set proportions (wt/%) of paraquat dichloride (the active substance), a surfactant, a breakage promoter (e.g. polyvinyl pyrrolidone) and extender (e.g. white carbon); wherein the granule is prepared by mixing the ingredients, kneading the mixture together with water and using a granulator to form the granules and drying them. The claims are directed towards the surfactant as being ionic surfactant and/or anionic surfactant; that the breakage promoter can be urea or polyvinyl pyrrolidone; that the extender can be white carbon or watersoluble carbon. The claims are further directed toward a method of preparing the paraquat dichloride granules; said method comprising mixing the active compound, surfactant, breakage promoter and extender at room temperature for a set time, forming the granules in a granulator and drying the product at 70-150 degrees for a set time.
3. Tadayuki et al (Patent '086) discloses a herbicide composition in the form of granules comprising paraquat, anionic surfactant and chelating agent; wherein the molar ratios of the ingredients are also disclosed (col 1, lin 50-55; col 4, lin 45-65 and col 7, lin 55-65). The

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disclosures in Patent '086 explicitly addresses applicant's claims 1 and 2 Patent '086 discloses paraquat herbicide and a surfactant in a composition. Patent '086 does not disclose a breakage promoter (polyvinyl pyrrolidone) and extender (white carbon) in the composition.

4. Yamashita et al (Patent '206) discloses a herbicidal composition as wettable powder comprising paraquat dichloride, polyvinyl pyrrolidone, white carbon and surfactant and wherein the relative proportions in wt/% of the ingredients are disclosed (col 5, lin 50-55). Patent 206 also discloses paraquat wettable granules: the granules comprise of paraquat dichloride, guar gum white carbon and surfactant (col 7, lin 40-55). Patent '206 discloses that the ingredients as a mixture was uniformly mixed and ground and then granulated by spraying water containing 2% polyvinyl pyrrolidone in a granulator (col 7, lin 40-45). Thus Patent '206 addresses applicant's claims 1, 2 and 3 and 4 and by disclosing how the granules are prepared in example 22, Patent '206 also addresses applicant's claim 5. The wt/% of the ingredients in the herbicidal composition is also disclosed. Furthermore, Patent '206 discloses that the solid herbicidal composition may optionally contain additional essential paraquat, thickening agent, conventional ingredients and surfactants. (col 3, lin 15-25). Though Patent '206 discloses that the mixture of ingredients in the herbicidal composition is sprayed with water containing 2% polyvinyl pyrrolidone, Patent '206 does not disclose the use of breakage promoter as urea or povidone as an ingredient and does not disclose the method of drying the crystals.

5. White et al (Patent '137) discloses herbicidal composition containing paraquat dichloride and urea that can be dissolved in a solvent such as water to give a solution. The solution thus obtained yields crystals of the herbicide on cooling (col 1, lin 5-10, lin 50 and lin 60-65 continuing to col 2, lin 1-5). Patent '137 discloses the process of preparing solid or crystalline

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complexes of paraquat dichloride including drying technique, using urea as the breakage promoter (col 2, lin 10-65). Patent '137 addresses applicant's claims 1 and 5.

6. One of ordinary skill would have been motivated to prepare herbicidal composition as by the methods disclosed in the prior art cited (Patent 086, Patent '206 and Patent 137). One of ordinary skill would have been motivated to include urea as breakage promoter and also include optional additional ingredients. One of ordinary skill in the art would expect to obtain the same level of success in preparing an effective paraquat dichloride herbicide as each reference has disclosed. By using urea instead of polyvinyl pyrrolidone as breakage promoter, one of ordinary skill would expect to obtain a urea salt of paraquat—a product of that is shown to be effective as a herbicide in the form that can readily be pressed into granules, said granules can readily be dissolved in water and applied for controlling unwanted vegetation for longer periods of time due to improved stability. Therefore the invention as a whole would have been prima facie obvious to one of ordinary skill at the time the invention was made.

Status of Claims

Claims 1-5 are pending in the application.

Priority

Applicant requests foreign priority to Application No. 1999/41035, Republic of Korea, filed 09/22/1999. The request for foreign priority is perfected as the requirements for 35 USC Sec 119 have been met. The application is a national stage of PCT/KR00/01051, international filing date 09/19/2000. A WIPO-stamped copy of the foreign application is on file.

Correspondence

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Retford Berko** whose telephone number is 703-305-4442. The examiner can normally be reached on M-F from 8.00 am to 5.30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Thurman K Page**, can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THURMAN K. PAGE
SUPERVISOR EXAMINER
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